■ **A. Rewrite each function as the composition of several functions.**
For example:
given $F(x) = (x+3)^3$, you would write "$F(x) = g(f(x))$, $f(x) = x+3$, $g(x) = x^3$".

[1] $F(x) = \sqrt{x^5}$

[2] $G(x) = \sqrt{x-3}$

[3] $F(x) = (x+9)^3$

[4] $G(x) = \frac{1}{(x+3)^5}$

[5] $H(x) = \left(4+2x^2\right)^5$, write this as the composition of three functions.

Answers

[1] $F(x) = f(g(x)),\ f(x) = \sqrt{x},\ g(x) = x^5$

[2] $G(x) = f(g(x)),\ f(x) = \sqrt{x},\ g(x) = x - 3$

[3] $F(x) = g(f(x)),\ g(x) = x^3,\ f(x) = x + 9$

[4] $G(x) = g(f(x)),\ g(x) = \frac{1}{x^5},\ f(x) = x + 3$

[5] $H(x) = f(g(h(x))),\ f(x) = x^5,\ g(x) = 4 + x,\ h(x) = 2\,x^2$